REMARKS

Claims 1-78 are pending, of which claims 1, 24, 47, 61, and 75-78 are independent.

Claims 47-60 and 78 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 1, 2, 6-9, 19, 22-25, 29-32, 42, 45-51, 61-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uga et al. (US 6,718,326 B2), hereinafter referred to as Uga, in view of Connery et al. (US 6,570,884 Bl), hereinafter referred to as Connery. Claims 3-5, 10-18, 20, 21, 26-28, 33-41, 43, 44, 52-60, and 66-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uga (US 6,718,326 B2) in view of Connery (US 6,570,884 Bl) in further view of Kadambi et al. (US 6,850,52 1 B I), hereinafter referred to as Kadambi.

In the present response, language of the Office Action is reproduced in indented, bolded, single-spaced font.

Rejections under 35 U.S.C. §112(1)

The Office Action states at paragraph 3 that:

> **Claims 47-60 and 78 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.**
> **Regarding claims 47-60 and 78, the claims specify *a computer readable medium* (For example see claim 47, lines 1 and 2); however, neither the original claims nor the specification define the term "computer readable medium." Therefore, the claims contain subject matter which was not described in the specification in such a way to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.**

For the sake of convenience of the Examiner, Applicant provides the following review of MPEP guidelines for making a determination regarding compliance with the written description requirement of 35 USC 112(1), with emphasis added. Specifically, the MPEP states that "(t)he

fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 111 7. MPEP 2163(I)(B). "If applicant amends the claims and points out where and/or how the originally filed disclosure supports the amendment(s), and the examiner finds that the disclosure does not reasonably convey that the inventor had possession of the subject matter of the amendment at the time of the filing of the application, **the examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims**.").*In re Wertheim*, 541 F.2d at 262, 191 USPQ at 96 (inquiry is primarily factual and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure). MPEP 2163(II)(A), MPEP 2163.04.

"The analysis of whether the specification complies with the written description requirement calls for the examiner to compare the scope of the claim with the scope of the description to determine whether applicant has demonstrated possession of the claimed invention. Such a review is conducted from the standpoint of one of skill in the art at the time the application was filed (see, e.g., *Wang Labs. v. Toshiba Corp.*, 993 F.2d 858, 865, 26 USPQ2d 1767, 1774 (Fed. Cir. 1993)) and **should include a determination of the field of the invention and the level of skill and knowledge in the art**. Generally, there is an inverse correlation between the level of skill and knowledge in the art and the specificity of disclosure necessary to satisfy the written description requirement. **Information which is well known in the art need not be described in detail in the specification**. See, e.g., *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379-80, 231 USPQ 81, 90 (Fed. Cir. 1986)." MPEP 2163(II)(A)(2)

"**The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement**." MPEP 2163.02. Further, "**The mere inclusion of dictionary or art recognized definitions known at the time of filing an application would not be considered new matter**." MPEP 2163.07.

At the time of filing of the present application on February 19, 2002, the term "computer readable medium" would have been considered "mere inclusion of a dictionary or art recognized definition," i.e., "information ... well known in the art," as set forth above, and need not be described "using the same terms or in haed verba," as also just described. Moreover, Applicant's description includes a number of description(s) and reference(s) to computing/communications devices that would have been implicitly well known in the art at the time of the invention to use a computer readable medium in order to function in the described manner. To name just a few examples, Applicant refers to the present Application at paragraphs [0002], [0005], [0025], and [0026].

With regard to claim 47 and 78, Applicant notes that the terms "computer program" and "instructions" are not included verbatim in the description, yet these terms are not rejected for lack of written description. Clearly, any practitioner of ordinary skill in any defined field related to computer science would have well-understood the meaning of these terms, and, just as clearly, such a practitioner would have understood the meaning of a "computer readable medium" used in conjunction therewith. Applicant submits that no "determination of the field of the invention and the level of skill and knowledge in the art," as described above and as required to be shown in order to maintain the present rejection, can be made that results in a practitioner of ordinary skill as of February 19, 2002 not understanding the meaning of the term "computer readable medium" and likewise understanding that Applicant was in full possession of the same as of that time.

Consequently, Applicant requests that the present rejection under 35 U.S.C. 112(1) be withdrawn.

Rejections under 35 U.S.C. §103(a)

The Office Action states at paragraph 5 that

> **Claims 1,2,24,25,47, 61, and 75-78 are rejected under 35
> U.S.C. 103(a) as being unpatentable over Uga et al. (US
> 6,718,326 B2), hereinafter referred to as Uga, in view of
> Connery et al. (US 6,570,884 B1), hereinafter referred to as
> Connery.**

Each rule field of the rules includes a selection flag used in the comparing the portion with each rule (Referring to Figures, 3,4, and 20, each rule field comprises a number of information flags used in the comparison of the header with each rule. See column 10, lines 52-61.)

Uga does not disclose *each rule field of the rules includes a mask.*

Connery teaches a receive filter for communication interfaces, which comprises mask logic circuits to generate a hash in response to bytes selected by the mask, and comparator which compares the output of the has logic with an expected hash. If a match is detected then the processor is signaled that the packet being received is, or may be, suitable for processing on the network interface card. The mask logic uses the mask modifier in response to the packet format, so that variations of a particular format can be handled with a single set of pattern match logic circuits (Referring to Figures 1-5, see abstract and column 4, lines 10-36 and column 5, line 38 to column 6, line 29.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the mask logic circuits of Connery in the rule searching sub-system of the packet classifier of Uga. One of ordinary skill in the art at the time of the invention would have been motivated to do so in order to improve the speed and efficiency in which a packet classifier can search through rules for packet classification whose bit width is extremely great, as taught by Uga (See column 4, lines 32-53.)

In this regard, Applicant notes that "the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness" *MPEP* § 2142, including a showing of all claim elements in a rejected claim. In order to establish a *prima facie* case of obviousness, the examiner must interpret the relevant claim, define one or more prior art reference components relevant to the claim, ascertain the differences between the one or more prior art reference components and the elements of the claim at issue, and adduce objective evidence which establishes, under a preponderance of the evidence standard, a teaching to modify the teachings of the prior art reference components such that the prior art reference components can be used to construct a device substantially equivalent to, and including all the elements of, the claim at issue. This last step generally encompasses providing objective evidence <u>teaching how to modify</u> the prior art components to achieve the individual elements of the claim at issue, and

providing objective evidence teaching **how to combine** the modified individual components such that the claim, as a whole, is obtained. MPEP § 2141; MPEP § 2143, emphasis added.

This requirement w described by the Supreme Court in *KSR* v. Teleflex, 550 *U. S.* _____ (2007); No. 4-1350 (April 30, 2007) which stated that such a rejection requires "some articulated reasoning . . . to support the legal conclusion of obviousness." As stated by the Court, obviousness can be established where "there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit." See In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006) ('[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.')." *KSR v.* Teleflex, 550 *U. S.* _____ (2007).

In the present rejection, the Office Action states, as already reproduced above, that "It would have been obvious ... to implement the mask logic circuits of Connery in the rule searching sub-system of the packet classifier of Uga ... in order to improve the speed and efficiency in which a packet classifier can search through rules for packet classification whose bit width is extremely great, as taught by Uga (See column 4, lines 32-53.)."

Applicant respectfully submits that this statement(s) is insufficient to establish a prima facie case of obviousness.

For example, the referenced portions of Uga are merely directed to a description of a problem that "the horizontal width of the rule table has increased ... (as) the use of the long addresses..." associated with IPv6 has increased. Therefore, the cited passage does not at al stand for the stated proposition that the mask logic circuits of Connery would have or could have been used to modify Uga to arrive at Applicant's claimed invention. Instead, the cited passage is consistent with the entire disclosure of Uga, which is generally directed to breaking long packets/addresses into smaller groups which are linked together within a Content Addressable Memory (CAM) so as to utilize known features of such a CAM in searching contents thereof.

For example, Uga states at column 10, lines 34-51, "...an example ... of grouping rules ... and of appending rule numbers to the rules which have been grouped for searching them ... (in Figure 3) ... the reference symbols 15 and 16 are two groups into which the fields which are required for packet classification are divided ... rule numbers which are appended start at 0 and

rise by increments of 1 at a time. Since it is necessary for the bit widths of all the groups to be less than or equal to the maximum search bit width which can be searched at one time in the content addressable memory, the method of dividing up the groups is determined so as to satisfy this condition…" Thus, it can be seen in comparing Figures 3 and 4 that, for example, a rule 11a that is relatively long in a horizontal direction is split into two portions 11a-1 and 11a-2 associated with rule numbers 0 and 1, respectively. In this way, Uga discloses that a rule(s) may be made easier/faster to implement (e.g., search) in the CAM.

Connery discloses that a filter (e.g., 15 in Figure 1 or 203 in Figure 2) may be used to identify a packet having one of a plurality of formats, to enable a receive path (e.g., path 13 in Figure 1) to operate at speeds faster than the processor 14 is capable of processing packets in the receive path, e.g., path 13. Consequently, the processor 14 assisted by the hardware filter 15 may be relatively slower, and have relatively lower cost, than would otherwise be necessary. See, e.g., Connery, column 4, lines 9-36. Thus, Connery discloses that "(b)ecause the processor is only required to handle packets identified by the dedicated packet filter logic, it need not have the capability to keep up with the entire data stream" See Connery, column 2, lines 13-16.

Consequently, Applicant submits that the present rejection fails to answer the questions as to either why or how Uga would have been modified by Connery to arrive at Applicant's claimed invention. As already described, the rejection alleges the obviousness of implementing "the mask logic circuits of Connery in the rule searching sub-system of the packet classifier of Uga … in order to improve the speed and efficiency in which a packet classifier can search through rules for packet classification whose bit width is extremely great, as taught by Uga (See column 4, lines 32-53.)."

Applicant understands that, in a vacuum and all else being equal, the stated advantages of improving speed and efficiency may be desirable. However, in order to establish a prima facie case of obviousness, the rejection would need to show some reason as to why and how Uga would have been modified by Connery to arrive at Applicant's claimed invention, and the rejection, in fact, makes no such showing, and does not establish a reason from any of Uga, Connery, or knowledge generally available in the art at the time of the invention, as to why or how the proposed modification would have been made.

For example, the alleged reason of improving "the speed and efficiency in which a packet classifier can search through rules for packet classification whose bit width is extremely great, as taught by Uga," merely refers to a feature of Uga, and does not provide any teaching as to why or how any teaching of Connery would have been desirable or implementable in modifying Uga to arrive at Applicant's claimed invention.

Thus, neither the cited portion of Uga nor any other portion provides **any** teaching regarding the use of a mask in Uga as recited in claim 1. Further, as already described, Connery merely discloses the use of mask logic circuits such that the processor of Connery is only required to handle packets identified by the dedicated packet filter logic, so that the processor of Connery may operate at <u>slower</u> speeds.

As set forth above, a prima facie case of obviousness requires objective evidence <u>teaching **how to modify** the prior art components to achieve the individual elements of the claim at issue</u>, and providing objective evidence teaching **how to combine** <u>the modified individual components such that the claim, as a whole, is obtained</u>. MPEP § 2141; MPEP § 2143. In the present circumstance, Uga discloses a specific scheme for grouping, organizing, and searching packet information within a CAM. Connery discloses the use of a mask logic circuit as a filter to remove certain packet types from a data stream. The rejection does not provide any description of **how** one of ordinary skill would have modified Uga using Connery to arrive at Applicant's claimed invention.

For example, the rejection does not describe any element of Uga which would be substituted for by the alleged mask of Connery, nor does the rejection propose any particular addition of the alleged mask of Connery to the device/system of Uga (including any necessary explanation as to how such a substitution or addition would avoid disrupting operations of Uga). Instead, the rejection merely attempts to identify separate elements of Applicant's claimed invention in separate references, and then makes a general and conclusory statement that these separately elements would have been combined in order to increase speed and efficiency, allegedly due to a feature(s) of Uga that is not related to the mask of Connery (or any mask) at all.

Therefore, it is apparent that the rejection relies on impermissible hindsight reasoning. In this regard, Applicant recognizes that any judgment on obviousness is in a sense necessarily a

reconstruction based upon hindsight reasoning, and that so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction may be proper.

However, as described above, such is not the case in the present circumstance. The present rejection clearly takes into account knowledge gleaned only from the applicant's disclosure, e.g., the use of the mask as recited in claim 1, and attempts to piece together Applicant's invention in a manner not supported by any of Uga, Connery, or knowledge generally available in the art. Such reasoning is insufficient to support a prima facie case of obviousness, which requires that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed," *See, e.g., In re Kotzab,* 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000). No such "particular findings" from the prior art have been made or presented, and none of the prior art, expressly or impliedly, suggests Applicant's claimed invention. Consequently, the Office Action fails to meet its burden of establishing that the rationale to combine is based on anything other than Applicant's disclosure, and, as such, represents merely an attempt to piece together Applicant's claimed invention based on Applicant's own disclosure.

Independent claims 24, 47, 61, and 75-78 recite the same or similar language as claim 1, and are rejected under the same grounds as claim 1. Consequently, all independent claims 1, 24, 47, 61, and 75-78 are believed allowable for at least the above reasons, so that respective dependent claims are believed allowable for at least the same reasons

In the latter regard, it should be understood that the various dependent claims may be additionally allowable on their own merits. For example, with regard to dependent claim 6, the Office Action states at paragraph 5 that Uga does not disclose "applying the encoded compact mask of the rule fields to corresponding fields of the incoming data packet to obtain a packet field value; comparing the packet field value with a rule field value contained in the one of the rules; and examining the selection flag of the one of the rule fields to determine whether the one of the rules is a potential match." The Office Action goes on to state that Connery discloses these features.

However, the Office Action alleges earlier in paragraph 5 that Uga discloses the claimed selection flag. Therefore, Applicant submits that the rejection is internally inconsistent and therefore invalid, because the rejection states on the one hand the Uga discloses the selection flag as recited in claim 1, then states that Uga does **not** disclose the selection flag as recited in claim 6, then fails to allege that Connery discloses the selection flag of claim 6. Applicant notes in this regard that the "information flags" of Uga are quite different from the claimed selection flag(s) of Applicant's invention. For example, the flags of Uga are disclosed as being mechanisms to group and navigate groupings of the rules of Uga that are split for placement into a CAM, as described in Uga and referenced above, and therefore are not used in Uga or any modification thereof in the manner recited in, for example, Applicant's claim 6.

Finally, regarding independent claims 24 and 77, Applicant notes that these claims are recited using statutory "means + function" claim language in accordance with 35 U.S.C. 112(6), and must therefore be interpreted and examined accordingly. For example, as set forth in MPEP 2182:

> The Federal Circuit explained the two step analysis involved in construing means-plus-function limitations in *Golight Inc. v. Wal-Mart Stores Inc.*, 355 F.3d 1327, 1333-34, 69 USPQ2d 1481, 1486 (Fed. Cir. 2004):
>
> The first step in construing a means-plus-function claim limitation is to define the particular function of the claim limitation. *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376 [58 USPQ2d 1801, 1806] (Fed. Cir. 2001). "The court must construe the function of a means-plus-function limitation to include the limitations contained in the claim language, and only those limitations." *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 [63 USPQ2d 1725, 1730] (Fed. Cir. 2002).... The next step in construing a means-plus-function claim limitation is to look to the specification and identify the corresponding structure for that function. "Under this second step, 'structure disclosed in the specification is "corresponding" structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.'" *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 [68 USPQ2d

1263, 1267] (Fed. Cir. 2003) (quoting *B. Braun Med. Inc. v. Abbott
Labs.,* 124 F.3d 1419, 1424 [43 USPQ2d 1896, 1900] (Fed. Cir.
1997)).<

The pending rejection alleges disclosure of elements of claims 24 and 77 by the proposed combination of Uga and Connery, but does not provide any interpretation as to what structure of Applicant's description is interpreted as providing the corresponding function(s) recited in claim 29. Applicant notes that the Examiner bears the initial burden of interpreting the claim(s) at issue and, in the present case, this would include the application of 35 U.S.C. 112(6), as just set forth above. Because the rejection does not, in fact, include any such analysis or interpretation, it therefore fails in the first instance to establish a prima facie case of obviousness, and claims 24 and 77 are believed allowable for least this additional reason(s).

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AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111
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Title: METHOD AND APPARATUS FOR FLEXIBLE FRAME PROCESSING AND CLASSIFICATION ENGINE
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Conclusion

Based on the above, Applicant respectfully submits that all pending claims are in condition for allowance.

No fees are believed to be due, however, if necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3521.

Respectfully submitted,

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